

## NORTH PACIFIC OCEAN, APRIL 1939

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**Atmospheric pressure.**—In April 1939 the Aleutian Low as an average extended from the western part of the Gulf of Alaska across the Bering Sea and the western Aleutians to the Asiatic coast, with the lowest average land station pressure, 29.64 inches, at Petropavlosk, departure from the normal,  $-.16$ . The lowest pressures of the month, 28.20 to 28.30 inches, occurred over and immediately south of the central Aleutians on the 10th and 11th.

In middle latitudes there was a considerable prevalence of anticyclones, with the average HIGHS central from Vancouver southwestward to about the one hundred and fiftieth meridian of west longitude and in the vicinity of Midway Island. At Tatoosh Island and Midway Island, land stations representative of these HIGHS, the respective average pressures were 30.13 and 30.21, which were  $+.13$  and  $+.09$  above the month's normals.

In tropical latitudes pressures were about normal. The Asiatic HIGH, prevalent in the colder months, had disappeared in April of this year from the far eastern waters.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, April 1939, at selected stations

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	<i>Inches</i>	<i>Inch</i>	<i>Inches</i>		<i>Inches</i>	
Point Barrow	29.87	$-0.21$	30.64	2	29.20	18
Dutch Harbor	29.86	$+.08$	30.82	1	28.56	11
St. Paul	29.73	$-.06$	30.62	3	28.56	11
Kodiak	29.74	$-.01$	30.58	4	28.82	25
Juneau	29.98	$+.02$	30.72	5	28.95	25
Tatoosh Island	30.13	$+.13$	30.61	5	29.72	3
San Francisco	30.05	$+.00$	30.27	4	29.86	13
Mazatlan	29.86	$-.03$	29.92	9, 15	29.80	5
Honolulu	30.04	$-.02$	30.17	23	29.84	4
Midway Island	30.21	$+.09$	30.36	6	29.89	3
Guam	29.85	$-.04$	29.89	1, 20, 30	29.77	22
Manila	29.85	$+.03$	29.97	26	29.71	16
Hong Kong	29.89	$+.01$	30.19	5, 6	29.70	19
Naha	29.90	$-.02$	30.21	6	29.74	15
Titijima	29.99	$+.02$	30.33	28	29.72	27
Petropavlosk	29.64	$-.16$	30.27	24	28.73	2

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco, and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

**Cyclones and gales.**—Although there were regions of local storminess, in both east and west longitudes of the North Pacific, the month and ocean as a whole cannot be considered as more than moderately stormy. Aside from a number of scattered winds of force 7, which in some lows were the highest reported, the strongest winds of the

month were rarely higher in force than 8 or 9, the principal exception being a gale of force 11 encountered near the central Aleutians on the 11th.

Early in the month there were two gale-producing cyclones. One extended as a long trough from the western part of the Bering Sea southward into middle latitudes, causing fresh gales at stations north of the main traveled routes on the 2d and 3d, and strong southerly gales (force 9) within the region  $40^{\circ}$  to  $45^{\circ}$  N.,  $155^{\circ}$  to  $165^{\circ}$  E., on the 4th. The other cyclone originated on the 1st to the northward of the Hawaiian Islands and entered the Gulf of Alaska on the 7th. It resulted in fresh gales in the area of about  $35^{\circ}$  to  $40^{\circ}$  N.,  $155^{\circ}$  to  $165^{\circ}$  W., on the 3d, and gales of force 9 farther northward on the 5th.

On the 8th and 9th two rather active lows affected half the width of the ocean in higher latitudes. These caused fresh to strong gales in both east and west longitudes along the middle portions of the northern steamer routes. On the 10th and 11th the westernmost of the lows developed strongly over and south of the central Aleutians, resulting in pressures well below 28.50 inches over a considerable area, and in some local gales, the strongest of which, a west wind of force 11, barometer 28.35, was experienced by the Japanese motorship *Hoyo Maru* near  $50^{\circ}$  N. and the 180th meridian, on the 11th.

A very small low began to develop in the midst of a general high pressure area over the eastern part of the ocean on the 17th. Its shallow center on that date was near  $36^{\circ}$  N.,  $144^{\circ}$  W. Local gales of force 8 accompanied its formation. On the 18th, as the little disturbance slowly increased in wind intensity, northerly gales of force 9 to 10, with barometric readings only a little lower than 30 inches, occurred within the region  $30^{\circ}$  to  $35^{\circ}$  N.,  $140^{\circ}$  to  $146^{\circ}$  W. The low deteriorated on the 19th.

From the 19th until the end of the month there were no storm areas of importance, and such few gales as were reported were only of isolated occurrence.

In American coastal waters one gale occurred. This was on the 13th and was reported, of force 8 from the north-northwest, by the American S. S. *Oregonian* just outside the Golden Gate. A low at the time lay over California and the immediate coast, with an anticyclone pressing close in from the westward.

**Fog.**—Along the northern routes there was less fog in April than in the preceding month, and the occurrences were scattering. The principal area of fog in open ocean was the latitudinal strip  $30^{\circ}$  to  $35^{\circ}$  N., between longitudes  $155^{\circ}$  and  $175^{\circ}$  E., with 9 days having fog. Along the American coast a fog belt extended from Oregon to Cape San Lucas. Five days were reported with fog off Oregon; 10, off California; and 7, off Lower California.